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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/654,182	09/01/2000	Agathagelos Kyrldis	96074CIP (3600-011-02)	6449

7590 11/30/2006  
Martha Ann Finnegan Esq  
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157 Concord Road  
Billerica, MA 01821-7001

EXAMINER

PHASGE, ARUN S

ART UNIT	PAPER NUMBER
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1753

DATE MAILED: 11/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/654,182	KYRLIDIS ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Arun S. Phasge	1753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 15 September 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 16-49 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10,16-49 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-7 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stalling in view of Japanese Patent 04-346830 ('830).

The Stalling patent only discloses the use of fullerenes, which are carbon molecules smaller than the claimed range. The '830 patent teaches the use of carbon particles including the claimed range having attached organic molecules used as packing for a chromatography column (see abstract).

Accordingly, the invention as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to use bigger sized carbon molecules in place of the fullerenes taught by the Stalling patent, because the Japanese patent teaches that bigger carbon molecules can be used to present additional benefits with the use of said porous carbon.

Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Stalling in view of Japanese '830 as applied to claims above, and further in view of Kusano of record for reasons of record.

Claims 8, 10, 16, 18-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stalling in view of Japanese '830 as applied to claims above, and further in view of Boes of record for reasons of record.

*Response to Arguments*

Applicant's arguments filed 9/15/06 have been fully considered but they are not persuasive.

Applicants further argue that the Stalling patent does not describe the attachment of the aromatic portion of the defined group be attached to the carbonaceous material. The specification does not recite that the aromatic portion of the defined group is attached to the carbonaceous material. Therefore, the figure 10B shows just such attachment, since the aromatic portion is attached to said carbonaceous material.

The use of the crosslinking agents would read upon the claims, in particular since the formation of the polymer particle attached to a carbonaceous particle would read upon the claims.

With regard to the combination of the Kusano patent with the Stalling patent, applicants argue that the Kusano patent does not disclose the attachment onto anything, rather is merely discloses the coating onto the substrate. As

disclosed in the Japanese patent the coating of the carbon particles with organic materials would amount to attachment within the meaning of the claims. To use a different material, such as the amino acid derivative taught by the Kusano patent, would have been obvious to one having ordinary skill in the art at the time the invention was made, because such coating provides an "attachment" of the organic material onto the substrate.

With regard to the combination of the Boes with the Stalling patent, applicants argue that the Stalling patent uses the organic groups to attach the fullerenes to the polymer or siliceous particles.

The Stalling patent teaches that different attachments of the organic compounds to the fullerenes affects the chromatographic separation of the obtained separation medium and are not there merely for the formation of a lattice structure (see col. 4, line 50 to col. 5, line 28). The secondary references are cited to show the use of other organic compounds attached to carbonaceous material.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the disclosure of the Stalling patent with the

teachings contained in the Boes patent, because the secondary reference teaches other organic groups attached to carbonaceous material.

*Conclusion*

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Arun S. Phasge whose telephone number is

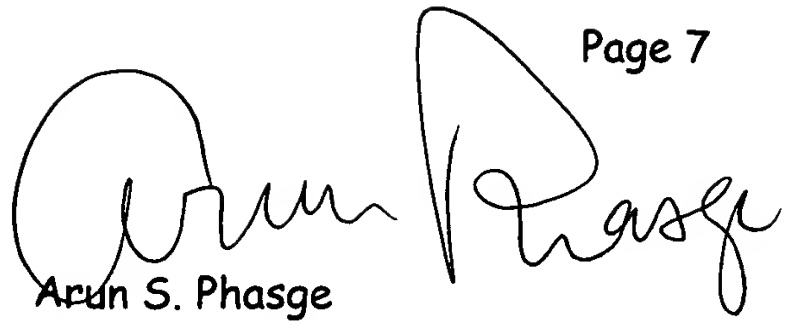
(571) 272-1345. The examiner can normally be reached on MONDAY-THURSDAY, 7:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam X. Nguyen can be reached on (571) 272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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A handwritten signature in black ink, appearing to read 'Arun S. Phasge'. The signature is fluid and cursive, with a large initial 'A' and 'P'.

Arun S. Phasge  
Primary Examiner  
Art Unit 1753

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